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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,817	09/26/2003	Joerg Rheims	VOI0276.US	8920
7590 07/22/2005 Todd T. Taylor Taylor & Aust, P.C. 142 S. Main St. P.O. Box 560 Avilla, IN 46710			EXAMINER HUG, ERIC J	
			ART UNIT 1731	PAPER NUMBER
DATE MAILED: 07/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/672,817	Applicant(s) RHEIMS ET AL.	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

The following is in response to the amendment filed May 10, 2005.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-6, 13-15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klungness (US 5,223,090) in view of Smook (Handbook for Pulp and Paper Technologists, Chapter 13).

Klungness teaches precipitation of calcium carbonate onto pulp fibers using low shear mixing by providing a fibrous suspension at a consistency of 15-60%, loading with calcium oxide or calcium hydroxide, then reacting with carbon dioxide to yield precipitated calcium carbonate (column 6, lines 38 to column 7, line 5). The chemically loaded pulp is eventually formed into a slurry (diluted), refined, and transported to a paper machine (where placed on a Fourdrinier), see column 6, lines 55-59. The pulp may also be refined prior to chemical loading (column 6, lines 2-4). It is known to refine pulp fibers to alter the characteristics of the fibers (i.e., fibrillation) and change the pulp freeness, see Smook. Any differences between the claims and Klungness, none are felt to exist, would have been obvious over Klungness or be an obvious optimization of the process, e.g. the expenditure of refining energy, or be a conventional paper making step, i.e., washing of pulp after refining and before paper making.

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2. Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klungness (US 5,223,090) as applied to claims 1-6 above, and further in view of Hoskins (US 6,059,924) and/or Smook (Handbook for Pulp and Paper Technologists, Chapter 13).

Hoskins teaches the importance of using lower consistencies (column 4, lines 24-50) e.g. 3%, to lower the energy requirements during the refining stage. It would have been obvious to slurry (dilute) the pulp of Klungness to the consistencies taught by Hoskins to save energy in the subsequent refining stage. See Hoskins, claims 5 and 9 for consistency of 4% and see column 4, lines 18-22 for consistencies of 1-40%. See also Hoskins, column 5, lines 49-51 for using a plurality of refiners. Smook is cited here to further exemplify the well known use of multiple refiners. Smook also teaches refining at the same or at different consistencies.

3. Claims 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klungness (US 5,223,090) in view of Smook as applied to claims 1-6 above, and further in view of Matthew (US 5,954,283).

In the process of Klungness described above, Klungness does not disclose the features of the refiners used to refine pulp before and/or after chemical loading. Matthew teaches using refiner plates for papermaking having refiner slots and structured surfaces including intersecting angles between 30 to 60 degrees (column 5, lines 35-37) and having offset side edges to reduce cost and durability of the refiner blades (column 6, lines 1-10). It would have been obvious to use such refiners in the process of Klungness to reduce the refiner cost and increase the durability of the refiner blades.

*Response to Arguments*

Applicant's arguments filed May 10, 2005 have been fully considered.

The rejection of claim 13 under 35 U.S.C. 112, second paragraph, has been overcome by amendment.

Applicant's main argument is that because Klungness teaches refining pulp during chemical loading, then this does not anticipate or obviate the claims. However, as described above, Klungness also discloses a method of chemical loading fibers using low shear mixing, which is not the same as refining. Thus Klungness teaches chemical loading without refining during loading.

Arguments regarding the rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over Klungness in view of Doelle (US 6,355,138) set forth previously are persuasive. Arguments regarding the rejection of claims 10-15 under 35 U.S.C. 103(a) as being unpatentable over Klungness in view of Sabourin (US 5,776,305) set forth previously are persuasive. These rejections have been withdrawn.

The substance of above rejections does not differ substantially from those presented previously. An additional supporting reference (Smook) has been provided, and the rejections that were maintained have been rewritten. Accordingly, this constitutes a new grounds of rejection, and hence this action is non-final.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bleakley et al (US 6,579,410)

Silenius et al (US 6,436,232)

Cousin et al (US 5,824,364)

Matthew et al (US 5,679,220)

Srivatsa et al (US 5,665,205)

Green et al (US 4,510,020)

Leech (US 3,099,570)

Craig (US 2,599,093)

The above references all teach chemical loading of fibers, with refining before or after chemical loading.

### *Drawings*

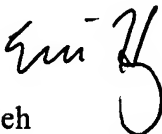
The replacement drawings were received on May 10, 2005. These drawings are acceptable.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
jeh